

2.) LOCAL SEPTIC MANAGEMENT PROGRAM

HOMEOWNER CHECKLIST

ENGINEERING SERVICES

*Design Questions to Ask **an Engineer** Prior to Completing a Contract*

This checklist will assist you, the homeowner, in asking an engineer, who is proposing to evaluate and design a septic system improvement for you, appropriate questions that should assist you in determining their suitability to perform the work.

A. General Questions

1. Have you performed septic system design work (under the new Title 5 regulations issued by the Commonwealth in 1996) that has been approved by our communities Board of Health or other regulating Department?
2. When was the last year and how many septic systems have you submitted and received approval for by our Board of Health?
3. Do you have a current professional registration (civil or environmental) engineering registration provided by the Commonwealth of Massachusetts Engineering Board of Registration? Can you provide a copy for our records?
4. Will you provide up to three most recent references for your work, from local communities homeowners?
5. Are you insured and do you carry professional liability insurance as required by the Commonwealth of Massachusetts and professional standards, as provided by the American Association of Professional Engineers?

SYSTEM INSPECTOR

B. Initial Location and Inspection of the Septic System

There are numerous septic system inspectors, licensed by the DEP - Commonwealth of Massachusetts. These inspectors are not necessarily engineers, and may be a cost effective alternative to hiring an engineering firm to perform the inspection.

1. We had (or haven't had) our septic system located and inspected. The inspector deemed that the system has failed and under Title 5 criteria, must be replaced. Will you review this inspection and ensure us that the Commonwealth's Title 5 regulations do indeed, require replacement of the entire system or a part of the system?
2. Our septic system has not been inspected, but we are having problems. Will you locate and sketch out the location and present system design and perform an inspection and provide options for us to consider, as outlined under the Title 5 regulations?
3. Will you or a subcontractor perform the inspection?

ENGINEERING DESIGN OF SEPTIC SYSTEM

C. Design Questions

There are two components of septic system design. The first consists of noting where your property lines may be so that test holes can be dug. These holes will locate your soil adsorption system, which handles the fluid part of septic wastes. The first part also includes actually digging the test holes with a backhoe, performing a soil examination and 'perc' test and then submitting the results to you, the homeowner, and the Board of Health.

This part of design does not have to be performed by a professional engineer, but can be done by a certified soil evaluator (certified by the Commonwealth of Massachusetts). The results of the soil examination are submitted to the Board of Health and You, the homeowner. The homeowner can then submit the results to a chosen registered professional engineering firm for design purposes.

These questions can be asked to either the professional design engineer or a chosen certified soil evaluator.

1. Will you charge us for determining where our property lines are located, or use general field work as determined from meeting with us today, as part of your design estimate?

2. If you cannot determine from our provided plans, or locations of known property bounds, drill holes, stakes or other property line markings, what will be your limits to determine property lines for location of the septic system components and soil adsorption system?
3. How will the soil examination (percolation test) be performed, by you or a subcontractor? Will you be present to show the subcontractor where to dig the holes for location of the soil adsorption system? Do the subcontractor and the heavy machine operator work directly for you, and do they carry the necessary liability insurance?
4. Will they be responsible for calling Dig Safe, if required?
5. Will the dug holes and tractor (tire) damages be filled in, graded and seeded or left in the general construction state of disrepair?
6. When the soil examination is completed, will you submit a copy to the Board of Health, our chosen design engineer and us?
7. How will billing be performed? We may request that billing be performed in the following manner:

NUMBER / DESCRIPTION

PERCENT OF COST

1. Provide a written estimate for all phases of the proposed work:

Inspection of System

- | | |
|--|-----|
| a. Initial Inspection, location of system and written evaluation | |
| 1. Inspection and location | 25% |
| 2. Written and signed evaluation | 75% |

Soil Evaluation and Percolation Testing

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| 2. | |
| a. Location of Lot Lines with side line stakes | |
| b. Onsite backhoe for soil test with successful percolation test and soil examination | |
| c. Written report and confirmation of submittal to Local BOH of certified test | 75% |
| d. Completion of backyard grading and cleanup | 25% |

3. Engineering Design

- | | |
|---|-----|
| a. Site visit and write up of estimate | |
| b. Survey work for plan of work | |
| c. Review of soil evaluation test and opinion to us of the type of systems that could be installed, along with price estimates for each one. | |
| d. Draft plans for review and approval of approved septic system.
(We will provide permit fee for submittal to our Board of Health at that time) | |
| e. Final plans submitted to Board of Health and a bill from you. | 60% |
| f. Board of Health approves the plan and we receive four copies for our use.
Written specifications will be included with plans | 40% |

4. Engineering Oversight of Construction

- a. Hourly charge for inspection of contractor's work.
- b. Estimate of total time estimated for inspection and maximum costs
- c. Time to provide written change orders on site, to be included with hourly charge.
- d. Billing to be done per inspection, with 10 days to pay.